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ABSTRACT

This paper reviews Piaget's stages of play and discusses the implications of play for early childhood education. The three stages of play identified in Piaget's research are: (1) practice play, (2) symbolic or make believe play and (3) games with rules. The characteristics of each type of play are presented and examples of play at each stage are given. The relationship between each stage of play and the individual's cognitive development is then discussed in detail. Also discussed are three factors that influence the quality, quantity and nature of children's play: (1) materials/environments, (2) peer interaction and (3) adult guidance. The match of the child's present developmental abilities to the activities in the environment is identified as the most important aspect of planning for children's play. Finally, the Piagetian interview technique is discussed as a means of evaluating play outcomes. Guidelines for employing this technique are presented. (JMB)

PLAY AND PLAYING PROCESSES OF THE YOUNG CHILD IN EARLY EDUCATION PROGRAMS: A PIAGETIAN ANALYSIS

by

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Introduction

Infants, preschoolers, pre-adolescents, adolescents and adults all perform the mysterious act called play. Although the quality and quantity of and the thinking structures utilized in play differ between and among age groups, human organisms regardless of age do play (Ellis, 1973; Piaget, 1962). However, the power of play and its potential for development and learning not only for the young child but also across the life span is virtually an untapped reservoir (Neumann, 1974). The basic reason that it is largely untapped and unearthed lies in the Puritan origins of our American society that has dictated that work comes first . . . then play (Blohm & Yawkey, 1977). In our society, work and play are on opposite ends of the value continuum. In context of our American public schools, for example, play has been relegated to the preschool and kindergartens and work to the primary, secondary grades and technical and/or university levels.

Over the past decades, however, researchers in steadily increasing numbers are beginning to re-examine and re-discover the contributions of play to development and learning across the life span. Researchers such as Erikson (1962), Freyburg (1973), Leiberman (1965), Nicholich (1975), Pederson and Wender (1968), Piaget (1962), and others view play as an evolutionary process

closely tied to the growth of intellectual structures and socio-emotional areas of the human organism. In particular, Piaget sees the development of play in relation to the growth of intelligence or intellect. Like the development of intellect, Piaget divides the growth of play into stages that correspond roughly to age ranges from birth through adulthood to old age.

Viewed from early education perspectives, Piaget's research has documented the evolution of play through three age related stages and has established subsequent relationships between play and intelligence. In brief form, these stages are practice play, symbolic or make-believe play, and the stage of games with rules. Also, in the evolution of play there is a transitional level or phase called, "Creative and Constructional Play." This form of play is not characteristic of human organisms of a particular age for it can occur at any age. "Creative and Constructional Play," essentially a transitional level between work and play, is described in depth elsewhere (Yawkey, 1977).

The chief characteristics of Stage 1, practice play, are motor actions and their repetitions. Motor actions are simple behaviors like looking, sucking, opening and closing of the hands, and other physical actions. These motor actions are repeated over and over again for the sheer pleasure derived from practicing them. Although advanced forms of practice play can occur in preschoolers and adults, it is largely observed in children birth through two years of age. In Stage 2, symbolic or make-believe play, the child is developing a representational system or advanced cognitive mapping

which permits unit blocks, for example, to be seen as horses or a thin cloud of air magically arising as "Puff the Magic Dragon." According to Piaget, the world of make-believe existing in various forms, is characteristic of children two through eleven or twelve years of age. Stage 3, games with rules, is a cognitively more advanced form of play. It typically begins around eleven or twelve. Here, play as well as the rules of play or the game arise spontaneously from the peer group. Sanctions against players who violate the rules of the game are established by the peer group. After 11 or 12 years of age, games with rules increase in importance as human organisms proceed developmentally through the period of adolescence, then to adulthood and old age. Examples of adult play include games of checkers, chess, cards, charades and numerous others. According to Piaget, the above examples of adult play have in reality basic make-believe as well as intellectual components. There are other examples of adult play such as volleyball, football, soccer, baseball, basketball, etc. Basic to these examples are practice play and intellectual components. From a developmental perspective of Piaget and other psychologists, play is indeed a life-long process of development and learning.

In context of the young child, practice and symbolic play are particularly important to learning and growth. For the adult, these play stages of practice and symbolic play are necessary for the orderly development of the games with rules' stage. For maximizing the potential of development and learning in the games with rules' stages, the adult must have successfully passed through two previous stages of play. For the child, practice and symbolic

play mark the beginning of the entire sequence of ordered stages from birth through old age. Maximizing the potential of development and learning for the young child which in turn is reflected in the games with rules' stage of the adult requires a thorough understanding of the bricks and mortar fundamental and inherent in play as a life-long process.

Practice and Symbolic Play

Practice play sometimes called function play, functional games, or prediction play, is characteristic of young children, birth to two years of age. It involves body movement of body activity repeated over and over again for the functional pleasure that exercise and mastery provide for the child. Whatever terms or phrases are used for the purposes of labeling the play of the infant and toddler, they all refer to activities in which the young child derives amusement and pleasure for trying out his physical abilities in moving his body, an object, and simply repeating learned movements.

Before practice play can occur or develop with respect to the child's body, an object, or repetition of movements, the child must have first of all shown exploration of the body, object, or movement. Piaget, as other current motivational theorists, differentiates between play and exploration. Simply stated, Piaget feels exploration proceeds play. Exploration provides the child with opportunities of examining things through the use of his senses of vision, hearing, touch, smell, and taste. The senses are the fundamental links between the child and the environment

and basic to the interaction process. Since the child explores before beginning to play with things, a temporal relationship exists between exploration and play. Exploration precedes play. Thus, in the beginning of the stage of practice play, the child is seriously engaged in exploration and pursuit of the novel or whatever is new.

A second prerequisite required before practice play can occur is the element of "mastery." In behavioral terminology, the child prior to practice play, must demonstrate competence in physical movement of body parts and physical movement of concrete objects in his or her immediate environment. Once the mastery of movements with and without objects is acquired and learned, the action or movement is repeated over and over again.

To Piaget, exploration together with mastery of physical movements is practice play. Piaget also contends that once physical movements with or without objects are learned and mastered, the parent and professional educator can observe in the young child the "pleasure of being the cause." In other words, through mastery or competence shown by the child's capability at physically manipulating things, pleasure, derived from mastery, is generated. In context of playing, the child learns that he or she can control aspects of the immediate environment through manipulation. Later on, this mastery and pleasure derived from mastery will extend beyond the child's immediate world of objects, mother and father, to other objects, people, as well as the world of operational ideas.

Although the young child is actually at the prelinguistic period of language development when practice play is the predominant form of game, the child by displaying the skills of mastery and functional pleasure derived from that mastery is really announcing to the world, "I can do it, and I can do it any way I want." Since practice play is in reality pleasurable exercises in development skills which center first on bodily sensations and movement and then to manipulating objects, there is no element of make-believe present in this earliest form of play. Practice games are actions and ends in themselves with the "joy of being the cause" as the outcome of the play activity. Even though practice play is the dominant form of game in the sensori-motor period of development it is not specific to the first two years of the child's life or to the preverbal period of language development. This form of games also appears in early and middle childhood, adolescent, as well as in adulthood. Practice games decrease in quantity as the dominant form of play after infancy. However, regardless of age whenever new skills are acquired and mastered, practice play is the outcome. In other words, an older child, who has previously mastered the competency of jumping over a small brook or stream displays practice play when he or she jumps back and forth across the stream. The sole aim of the older like the younger child is the repeated use of the action and the pleasure derived from mastering the action. Adults, at higher levels of intellectual development, also show practice play. When adults purchase new cars or homes or learn the art of skiing,

the car, home or skiing are used principally for fun and solely for the sake of the pleasure derived from using the physical movements, or the new objects.

Piaget recognizes a number of substages in the development of symbolic play which spans the entire age range of 2 through 12. In briefest form, substage 1 consists of three levels. Substage 2 and 3, although lacking specific levels do contain advanced characteristics of symbolic play.

The overall characteristic of level one is the projection of symbolic and imitative schemes. The symbol in action becomes disassociated from previous motoric movements. The symbol in action at this point in the development of imaginative play is projected to other objects as independent representations of actions or objects rather than acting out the actions himself. For example, the child can now pretend that his doll or family pet "sleeps," or "eats." Prior to this development, the child in primitive symbolic play, could only imagine himself completing the action concept. In imitating, the activities of familiar "others" are observed and imitated by the child. For instance, a child, who in imitating grandmother phoning, mother reading the newspaper, or father shaving, uses familiar motor schemes in context of the telephone, newspaper, or shaver and is performing make-believe imitative play.

The major characteristic of level two is games of imitation. In this level, symbolic identification through make-believe occurs prior to, not as a result of, motor movements in context of objects

(Piaget, 1962). The imitative element is evolved by actions and the object. For example, a child may stroke mother's hair and in doing so may call out the name of the family cat. The action of stroking coupledwith the hair is the symbolizer. The cat and its fur constituted what was symbolized. When the child reaches this phase of symbolic play, symbolic assimilation and imitation become tightly fused together.

In level two, substage one, the child can also make more complex identifications on the basis of whole objects, people, and things. Examples of this type of symbolic play include: (1) A child making believe she is a cat, crawling into the kitchen on all fours, "meowing," and searching for food; (2) A boy, pretending he is a doctor, examining a patient for an illness; or (3) Although not having seen his cousin for three months, a child pretends to play hide and seek with him. The child in these examples completely identifies himself with and becomes that cat, doctor, or cousin.

In the last level of substage one, symbolic play is becoming increasingly complex. Here symbols are developing into varieties of combinations called symbolic combinations. The four types of symbolic combinations are: (1) simple combinations; (2) compensatory combinations; (3) liquidating combinations; and (4) anticipatory symbolic combinations.

In "simple combinations," the occurence of real play episodes or scenes gradually develops and takes on greater and greater depth and richness. It involves the construction of whole play episodes

in contrast to isolated imitations or simple assimilations. One example of simple combinations is where a child, holding his doll so that it can "view" the street, begins to tell the doll what it is seeing. "You can see the car, trees, and house and garbage cans!" The child may continue by saying, "You see the cat, the rocks on the curb, etc.!"

During the period of compensatory combinations, the assimilation of reality continues through make-believe. The child reproduces reality in the phase of compensatory combinations not for the pleasure derived from it, but solely for correcting reality. For example, a child who is forbidden to play with matches will often times be observed to take a burnt match and pretend to light it by going through "striking" movements. At the same time he says, "Look, I'm lighting a match!"

In liquidating combinations, the child, refusing to accept unpleasantness, instead relives it by transposing the situation symbolically. When this type of transposition takes place, the situation through reenactment becomes disassociated from its unpleasant context. It is assimilated into other ongoing activities and behaviors. Being a doctor in symbolic play is a much safer way of reenacting an unpleasant episode faced in the hospital or doctor's office.

In anticipatory symbolic combinations a child, through an imaginary friend or play object, may warn of possible disastrous consequences if particular actions are or are not completed. For instance, "Dolly, you didn't watch for glass on the sidewalk and

it cut your foot!" A child who shows fear at walking through the forest but coaxed by his parent may exclaim, "Once I walked through the woods alone and Helen (imaginary playmate) met a big bear that frightened her." "She ran all the way home and hid in her room!" While both examples of anticipatory symbolic combinations are reproductions of reality, the consequences of the actions in exact or exaggerated form are present.

In substage 2, symbolic play begins to diminish in importance between the ages of four and five through seven or eight. The symbolc loses much of its distorting symbolic character and begins to closely approximate reality. Symbolic play in stage 2 displays three major characteristics which differentiate it from those forms found in stage 1. These three characteristics are: (1) orderliness; (2) exact imitation of reality, and (3) collective symbolism (Piaget, 1962). Symbolic play episodes now take on greater order, display more logical sequence, and appear to be more coherent than were previous symbolic play constructions. The child shows increasing concern and desire for verisimilitude in symbolic play. This is shown by the child's increasing attention to exactness of detail for objects used in play constructions. In playing house, for example, the child will go to great length to prepare for the play episode in advance by obtaining certain types of utensils, constructing a specific kind of gas range, and even identifying the number of characters required. Collective symbolism, the third characteristic, demonstrates the progress the child has made in symbolic play through order and coherence and in socialization.

Collective symbolism is seen, for instance, when children decide to play house, divide up parts, and then adapt their actions and statements to verbal cues and other leads provided by each member. Children are also able to reverse the roles played, Regardless of the reversal, symbolic play continues as before.

The third substage in the evolution of symbolic play is characterized by a very noticeable increase in socialization with a corresponding decrease in symbolism. For Piaget, this substage, on the average, begins between the ages of seven or eight and terminates by eleven or twelve. Games with rules and/or symbolic constructions, involving less and less distortion and greater and greater approximations to adaptive work, increase. Piaget notices that play, at this advanced level, is merely a collective symbolic games with an audience (Piaget, 1962). Later on, it becomes theme-oriented where the purposes and general outlines of the activity are decided upon before the beginning of the episode. Once the prepared part is played, there is still much room for improvisation. The end of the activty is never specifically planned. With the symbol becoming an image whose purpose is no longer assimilation to the ego, but adaptation to reality, imaginative play ultimately evolves and develops into play activities with rules--that is, activities of socialized beings.

Given the above analyses of practice and symbolic play stages drawn from developmental Piagetian perspectives, several important fundamentals of play can be identified for the young child in school settings. These fundamentals include implications of play

for learning and development, planning for play, and evaluation of playing outcomes.

Play in Early Childhood Programs: Prerequisites

While play is most often a spontaneous, unplanned, and overtly nonstructured activity, however, in order for planned and incidental learning to occur during the child's play episodes, some prerequisites for play activities must be achieved. These prerequisites fall into three categories. The first category is the actual play materials themselves, and the immediate and extended environments in which the play occurs. It comprises both the quantity and quality of the materials and home and school environments. The second category concerns the nature and form of the child's play. It is the area of kinds of social play. In other words, is the child exhibiting various forms of egocentric or group play? The third category deals with the nature of adult guidance and refers to the role an adult takes in relation to the child's play.

Materials/Environments:

Materials for play fall into two categories, those of subject and those of object. The category of subject contains the individuals who may be involved in the child's play (i.e., the child, peers, adults). The category of object includes the play tangibles. A discussion of the quantity and quality of subject will be considered only briefly. Other extensive explanations can be found elsewhere (Hartley & Goldenson; 1957 and Neumann, 1974). Quantity and quality of objects are essential topics for this section. Environmental

aspects and roles of the adult educator are also considered.

Quantity of objects. In the area of objects, the greater number of play tangibles in an environment does not necessarily mean the greater learning and development potential through play. Consider children playing with toys. George plays with a bike, tricycle, wagon, scooter, big-wheel, fire truck, dump truck, tow truck, milk truck, sports car, sedan, ambulance, and an airplane. Sally on the other hand has a big-wheel, a puzzle, building blocks, a tow truck, a doll, a ball, a puppet, and a music box. George plays with considerably more toys than Sally. However, all of George's toys belong to a restricted class of toys, while Sally's play objects comprise a highly varied set. George has many toys but they all fall into one or two experiential categories and do not offer the possibility for a variety of make-believe play situations. Sally has fewer toys but they span up to eight experiential categories and offer the possibilities of play in a combination of several experiential categories. For example, Sally may play with blocks, doll, and truck in the same play episode. Thus, a greater number of objects is not as desirable as a smaller set of toys which offer variety and the possibility of conjunctive/relational play episodes (Ellis, 1973). Number, then, is not as important as kind of toys.

However, number of objects within a play category does become an important determinant when the factor of novelty is considered. Neither children nor adults enjoy great amounts of the same on a regular basis. A child with a varied but limited set of toys over

a period of time exhausts novel possibilities of those toys (Ellis, 1973). This fact does not however indicate a necessity for great amounts of toys. Consider a child with double the number of toys Sally had. These may vary in feature rather than category (e.g., a set of wooden building blocks, and a set of plastic interlocking blocks). These toys may then be divided into two sets. The sets of toys may be placed at Sally's disposal at appropriate times. The point remains, however, that it is possible to have few, varied, yet novel toys which provide the child with a nucleus for numerous imaginative play episodes. While there must be a sufficient number of toys for novelty, toy "overkill" is not necessary and variety is ultimately more important to the child's imaginative play than quantity.

Quality of objects. The quality of toys may be judged on the basis of strength, attractiveness, and ambiguity. Strength is a simple concept. The object must be durable enough to withstand normal physical pressures of a child in the act of playing. Attractiveness, also fairly simple, is based on dimensions of attention, interest, and imagination. An object that does not arouse attention, interest, and imagination is not an effective play object. Attractiveness is not tied to elaborateness, however. Today's dolls which walk, talk, and demonstrate other bodily functions are no more attractive and possibly less interesting than their ancestors made from corn stalks. Attractiveness varies for each child. Attractiveness can be a function of color, texture, shape and perhaps more importantly style and form. The

authors have personally observed children engaged in extended periods of play using only a potato, a straw, and a dowel or a spool, a button, a rubber band, and a toothpick. These play objects, while not elaborate, must be quite attractive to the child to hold his attention for unusually long periods of time. Lastly, is the factor of ambiguity which is not nearly as simple as the previous characteristics. Ambiguity refers to the quality of an object which allows it to be used in a variety of ways depending upon the child's imaginative needs and predispositions. Blocks, for example, are more ambiguous than a corn stalk doll, and a corn stalk doll is more ambiguous than "GI Joe." Blocks may represent a building, or a vehicle, or something to eat, or something which eats. A doll may assume a variety of ages, personalities, and (depending on the styling) sexes. The "GI Joe" doll on the other hand is limited to a male hero figure which has a limited number of possible functions. However, each play object is ammenable to different imaginative play categories which are described elsewhere (Singer, 1973).

Subjects. Play objects are obviously a portion of the imaginative play environment. However, they are not the entire play environment. While it is necessary to provide the child with a moderate number of varied, novel, sturdy, attractive objects with various levels of ambiguity, it is not a sufficient environment in order to promote cognitive, social, and emotional growth. The environment must provide subjects, support, and encouragement for the child to become involved in playful activities. In order for

the child to develop, he or she must also have social contacts with peers and adults (Piaget, 1963). These contacts may be provided in the play environment. The interactions which occur between objects determine the "form" of the imaginative play. If the subjects have very little interaction, the imaginative play may be considered to be a form of parallel or egocentric play. That is, the subjects may play in physical proximity, and even in similar context, however, each child is only concerned with his own actions unless another subject interferes with those actions. The social contact necessary for development and learning is quite limited in "on looker," "solitary," "parallel" or other form of socially egocentric forms of play.

Another form of play is group sontaneous play. Here, the subjects interact and adapt their play actions to fit the context of the actions of other subjects. Group spontaneous play can be seen as more adaptive to intelligence than egocentric play. The social contact required in "associative," "cooperative" and other group forms of play provides greater potential for growth and learning than egocentric forms of play.

Environment. Environment, according to Neumann (1974), accounts for "playfullness." An environment which encourages only one correct solution to a problem tends to discourage novel actions and imaginative play. An environment which encourages a search for many possibilities also encourages novelty and make-believe play.

In order to encourage novelty, play objects should be changed intermittently. Providing a numerous set of play objects which remain constant for a long period of time encourages unchanging static interactions with those objects. Thus, for the child, it is possible for a set of long blocks to become fixed in use as a "fence," or for an arched block to always serve as a "bridge." To prevent loss of novelty, several sets of toys should be available to the child at various intervals. Set "A" may be displayed for a period of weeks while set "B" is stored in a utility cabinet. After two or three weeks, the sets may be switched. Intermixing of elements from sets "A" and "B" may also provide for sets "C," "D," etc. In this way, the child is encouraged through the environment to interact with play objects in novel rather than static ways. A second method of encouraging novelty within the environment involves increasing the complexity of the play object. For example, novelty can be increased by initiating a five-piece puzzle in a play episode where, previously, a three-piece puzzle was used. By introducing a more complex puzzle, novelty has been increased.

Considering the role of the adult (aside from structuring the environment) raises the question concerning the appropriate amount of adult involvement. On a continuum, ranging from omnipresent to invisible, where should the adult be placed? While it is possible to rule out the extremes of the continuum, placement is dependent upon the individual needs of the child and the objects with which he interacts. For example, an adult may show the child the appropriate

strategy for completing a puzzle and then remove himself from the play environment. On the other hand, the child may actively include the adult in symbolic play and the adult may take this opportunity to assess discrimination concepts. Imagine the following scenario: Shanda decides to make a fruitcake and determines that she needs assistance--the adult is incorporated into the play. The sequence follows with Shanda demanding various ingredients from the adult. The adult's role is to supply replicas of the ingredients. All the ingredients plus a bowl are placed on a table and Shanda can see the ingredients but cannot reach them. The play continues--"Let's see first I'll need eggs." The adult hands Shanda a carton of milk. Shanda rejects this and exclaims, "No, eggs, silly!" The adult responds, "Aren't eggs white?" Shanda answers, "Yes, but eggs are round and hard." The adult acknowledges and gives her the eggs. "Apples," asks Shanda. The adult provides an orange. Again, Shanda rejects the offered fruit with a giggle. The adult insists that it must be an apple because it is round. Shanda correctly identifies that it must also be red and not orange. The adult responds by providing the correct fruit. The game continues until all the ingredients are used. All the while the adult plays ignorant and the child plays the role of the knowledgeable informer. Here, the child's play guides the situation and the adult is able to determine that the child not only is capable of naming items, but also is capable of discriminating relevant properties. In addition, the child is able to carry the playful situation. While in the puzzle instance

it was appropriate for the adult to be minimally involved, in the baking instance it was appropriate for the adult to take a highly active, yet subordinate, role. There is no pat answer to the question of amount of adult guidance. Rather the adult must analyze the child's motives and needs in conjunction with the environment and act accordingly.

Play is then dependent upon materials/environment, peer interaction, and adult guidance. It is these prerequisites that influence the quantity, quality, and nature of the child's play.

Planning for Play

The previous section identified some important implications of play and several prerequisites for learning and development in school environments. The present section interrelated prerequisites and implications with planning for children's play. The most important aspect in planning for children's play is the concept of the match (Hunt, 1963). The match is the relationship of the child's present developmental abilities to the activities which are made available in the environment. In order to plan appropriately for the child's play, the adult must: (1) identify the child's current abilities; (2) identify desired goals; and (3) select activities which relate 1 and 2. For example, if the child is able to name animals--tiger, horse, goat, alligator, monkey, cow--but is unable to categorize the animals as wild or domestic, and if the instructional goal is to develop a specific categorization, a selected activity may have the child place

pictures of the animals in the environment in which they belong. Thus, the child is asked to place some animals in the jungle and some animals on a farm. The objective is to base the activity within the child's capabilities but to also make the activity sufficiently challenging to encourage the child to attempt the task. Therefore, if the task is beyond the child's present capabilities, it will be too difficult and discourage the child; if the task is something the child has done many times before, it may be uninteresting. It is the adult's challenge, then, to try to provide a match between the child's capabilities and the expected outcome or goal.

The prerequisites of play such as materials, environment, peer interaction and adult guidance when manipulated have differing effects on the child's learning and growth. In attempting to strike the match, the adult manipulates some of these prerequisites in order to provide an environment which will direct the child toward a particular goal. First, in planning for play the adult may wish to establish an environment which facilitates spontaneous group play. It is such a social environment which challenges the child to communicate and become less egocentric (Piaget, 1951). Areas or learning centers which encourage social involvement may be a restaurant instead of a kitchen, a beauty shop instead of a dressup corner, a construction instead of a block center. These centers encourage children to take roles (even if they are incomplete roles) and interact with other children.

Second, the adult may desire to establish an environment which allows for a minimum of exterior direction and a maximum of observation. Again, this can be done through the learning center concept which suggests an activity to the child. For example, the child who chooses to play in the restaurant area has a choice of several roles to play (e.g., cook, dishwasher, waitress, customer). Once the choice is made, the child is responsible for directing his own actions. This frees the adult for taking an observer position (even within the context of the child's play). As an observer within the child's play, the adult allows the child to provide the direction and the adult may provide specific problems withinthat direction. Witness the following play sequence:

Adult and child enter restaurant area in which one child has already taken the role of waiter.

Waiter: "There's a table for you right there."

Customers: (together) "Thank you."

Waiter gives the customers a menu.

Young Customer: "Gimme a hamburger."

Adult Customer: "I can't decide. What do you have good to eat?"

The adult has provided a problem situation which the child must now attempt to solve. Notice that the adult is not being directive but merely taking the opportunity to observe responses in a situation which has been constructed by the children. The play may continue with future problems resulting from previous play situations. For example: Adult customer: "Oh, I've spilled my soup! What shall we do?"

Third, and lastly, the adult may wish to plan for general outcomes. Centers, which encourage role taking, result in social outcomes. Other centers may be constructed to encourage understandings of physical relationships. In these centers, manipulatives may be provided for the child's exploration. Examples of these are water tables, magnet centers, or a set of Stern's rods.

Evaluation of Playing Outcomes

Play from a developmental perspective has value for the young child. Play significantly contributes to the growth of thinking abilities. Play, like development, concerns all of the child's thinking structures because its focus is not limited to a specific episode or single problem. From Piaget's perspective, play is development rather than a construct which explains development.

Play can be a vehicle to teach a set of specific skills like social relationships, muscle control, basic mathematical propositions, or other social-affective, psychomotor, or intellectual skills. Generally speaking, a condition of internal reality exists since play is predominately incorporating parts of the environment. The young child receives and shapes experiences to suit himself according to the individual's egocentric attitudes. In play, the child does not strive to meet the criteria enforced upon the child by external agents. The focus of control is internal rather than external. The adult, in turn, sets up the environment to facilitate development and learning through play.

Appropriate to evaluating play is Piaget's exploratory method. It is basically a questioning technique in which an adult plays the role of a skilled interviewer. The main purposes of the interviewer are to figure out what goes on in the child's mind and in turn try to determine his or her level of thinking. In essence, the interviewer is applying the match for purposes of assessment. The exploratory method employs situations that are contrived by the adult or more preferably those spontaneous activities which emerge from the child's own interactions. Here, the main purpose is to observe the child's actions and reactions to the situations and activities in play episodes. After observing the child, the interviewer has a base from which he can pick up on the child's answers, determine how the child is thinking, and try to extend the child's thought. From a Piagetian framework, based upon play episodes, diagnostic interpretations of how the child is thinking is possible by watching how the child acts and reacts.

To employ the exploratory method to evaluate levels of thinking in play, the following guidelines are important:

1. Observations of children's current actions, both motor and verbal, are fundamental.
2. Play episodes contrived by both children and an adult can be used.
3. Providing the children with concrete play tangibles is essential as a prerequisite to the exploratory method. Manipulation also helps play and the growth of thinking structures.

4. Intervening into play episodes of young children is possible after extended observations of these children have been carried out.
5. Through open-ended questioning, the adult asks a child or children--to make predictions about why particular events occur or why something happened in that way. The child can be asked to guess about specific outcomes that have not as yet occurred (anticipated results).
6. Based upon the predictions of anticipated results, the interviewer asks the child or children to test the prediction of results using relevant stimuli.
7. Based upon the child's previous answers, the adult again questions the child further about what he or she has said and uses this additional inquiry to find out more about the individual's thinking abilities.

Summary

Play, a life-long activity begins at birth and evolves across the life span. From Piagetian perspectives, play evolvesin and through successive stages of practice, symbolic and games with rules from infancy, adulthood to old age. Significant processes fundamental to play relate to and form the basis of intellectual development. From analyzing practice and symbolic play stages, fundamentals of play crucial to learning and development of human organisms can be identified. These fundamentals concern implications of play for learning and development, planning for play, and the evaluation of outcomes in the playing process in early childhood education programs.

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